

Fatal Interaction: Right Whales and Ships

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A numbers game... Even though the odds of an individual ship hitting a right whale are miniscule, the sheer number of ships crossing right whale habitat results in a collision every year or two.

With the best available estimates ranging from 300-350 individuals remaining, the Northern Right Whale (*Eubalaena glacialis*) is a critically endangered species. These whales regularly visit Massachusetts waters and the waters of the Great South Channel, Georges Bank, the Gulf of Maine, the Bay of Fundy, and the continental shelf south and east of

Nova Scotia. Unfortunately, these feeding pilgrimages can prove deadly when an unlucky whale crosses the path of a large ship. Although the odds of any individual ship hitting a whale are miniscule, the number of ships traversing this area means that typically some ship hits a right whale every year or two.

Right Whales in Peril

In 1935, right whales were first protected by international agreement, which was extended to complete protection by the International Whaling Commission and its implementing convention in 1949. Despite the last 50+ years of protection, the Northern Right Whale population along the east coast of the United States and Canada has shown little recovery. The 1991 Final Recovery Plan and the Draft 2001 Recovery Plan still under review cite ship collisions and entanglements in fishing gear as the most common known cause of anthropogenic (human-caused) mortality for the right whale. Data compiled by the Marine Mammal Commission show there were 52 known right whale deaths between 1970 and 2001—18 of these deaths were due to ship strikes, three were due to entanglements, 16 were considered perinatal (happening around the time of birth of the whale), and 15 were due to unknown causes.



Shipping and Right Whales

Each year, thousands of vessels make thousands of port calls to the United States, carrying many millions of tons of goods worth billions of dollars. The U.S. Army Corps of Engineers publishes shipping statistics in *Waterborne Commerce of the United States* (WCUS). (Statistics for the Atlantic Coast from 1995-2000 are available on the Internet at www.iwr.usace.army.mil/ndc/wcsc.htm.) Hundreds of thousands of vessel trips are made each year along the east coast, with 58,000 to 72,000 trips made in the Gulf of Maine alone. This statistic is important because some female right whales give birth each year in the Florida Gulf during the winter, migrate north to Cape Cod Bay in the spring, and then travel to the upper Bay of Fundy and other areas in the Gulf of Maine and North Atlantic during the summer.

Potential Solutions to Ship Strikes

The National Marine Fisheries Service (NMFS) is charged with protecting the right whale. NMFS has assembled a team of researchers, state and federal agency personnel, and other interested parties, which became known as the Northeast Implementation Team, to help generate proposals to protect the whales. The Team's Ship Strike Committee, with the support and assistance of numerous other agencies and

groups, is pursuing solutions to the right whale ship strike problem through education, technology, and ship traffic changes.

Education

Government, researchers, conservation groups, and mariners are working together to inform the shipping community and the public about the ship strike issue through publications, direct information to mariners, and training courses. Important publications include a brochure and laminated placard for mariners with right whale characteristics, migration routes, guidelines on approaching whales, information sources for the most recent sightings, and information about what to do should a collision occur. The National Ocean Service's *U.S. Coast Pilots* now provides information on right whales, where and when they are found, threats posed by ships, and measures to avoid collisions. The National Imagery and Mapping Agency's annual *Notice to Mariners*, published annually by the National Imagery and Mapping Agency, now contains information and precautions on the right whale's habitat in Canadian waters. In addition to publications, information is relayed to ships through a Mandatory Reporting System operated by NMFS, the National Oceanic and Atmospheric Administration, and the U.S. Coast Guard. In critical habitat areas, all commercial ships greater

than 300 gross registered tons are required to call into a shore-based station prior to entering the area, prompting a return message with information on the right whale's vulnerability to ship strikes, how collisions can be avoided, and the latest right whale sighting observations. Finally, the Coast Guard's International Safety Management Code now educates mariners on the issues surrounding the protection of endangered marine species. Protected species information is also required in the safety management documents developed by the vessel owners, masters, or shipping company.

Technology

Many vessel operators have indicated that technological solutions could be developed to reduce, if not eliminate, the problem of ships striking right whales. Some technological solutions include starscopes and light gathering technology, active and passive sonar systems, early warning systems, alarms, tagging, satellite imagery, laser infrared detection and ranging, and infrared detection. Although many of these technologies show promise, none are currently economically viable alternatives for consistently alerting mariners to the presence of right whales. Future research and development will be required before a technological solution can be successfully implemented.

Modification of Ship Traffic

This approach aims to keep whales out of harm's way by diverting vessel traffic from areas where right whales are congregating. Because of the great variability in whale behavior, however, additional study and/or continual monitoring are necessary to ensure that traffic changes actually reduce interactions. Numerous specific route changes are under consideration, but only the Bay of Fundy shipping lane north and east has been shifted. The appropriate duration of traffic changes is also under investigation. In some cases, permanent restrictions are under consideration, while other proposals are aimed at seasonal area management (SAM) and dynamic area management (DAM). SAM assumes that right whales

will be in a particular area at the same time every year, with speed and/or routing restrictions implemented for that time frame. With DAM, when a group of right whales is found in a particular area, a circle of pre-defined size will be drawn around the animals. Speed and/or routing restrictions will be published and distributed by NMFS and the U.S. Coast Guard and will remain in place for a defined time frame or until the whales disperse, whichever happens first.

Remaining Questions

Currently, all of the options described above on managing ship interactions with marine mammals are before NMFS. The Northeast Implementation Team surveyed its members

on the options of speed and traffic changes, and while many members agreed with the logic of the measures, they had questions on the U.S. authority to implement a management action on foreign vessels, enforceability, and the ability to measure an action's success or failure. In addition, economic studies are just being completed that examine the extra costs to vessels by port if speed restrictions are implemented. This type of analysis is a good start but much more is needed to get a valid economic picture of what truly protecting this species will cost. Continuing to work together on solutions that are cost effective, measurable, and effective is the right thing to do for the right whale.

References

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So, why are they called the "Right" Whale?

Because they were the "right" type of whale to kill back in the day.

So maybe now they should change their name to the Wrong Whale...

